REMARKS

These remarks are responsive to the Final Office Action, dated September 29, 2006.

Claims 32, 33, and 38-71 are currently pending. Claims 32, 38, 39, 40, 41, 60, 61, 67, and 71 are

independent. Claims 32, 33, 38-41, 60-61, 67, and 71 are amended to facilitate prosecution of the

application to allowance. The support for these amendments can be found in the Applicants'

specification on page 6, line 10 to page 19, line 8.

Interview

Applicants would like to thank the Examiner for the opportunity to discuss the present

application during a telephonic Interview on December 27, 2006. The following is a summary of

the interview:

1) No exhibits were shown or discussed.

2) Claims 32, 38, 39, 40, 41, 60, 61, 67, and 71 were discussed.

3) References discussed: Cotter et al., "The National Biological Information

Infrastructure: coming of age", Online Information Review, Vol. 24, No. 6, pp. 429, 438, 2000

("Cotter") and Pullan, M.R., et al., "The Prometheus Taxonomic Model: a practical approach to

representing multiple classifications", Taxon 49: 55-75, 2000 ("Pullan")

4) Applicants advised the Examiner that the present invention is directed to systems and

methods for information retrieval. Specifically, amended claim 32 recites, *inter alia*, a

computerized method for managing taxonomic information to facilitate retrieval of information,

that include identifying a first name that specifies an organism; determining if the first name

corresponds to a name entry in a names table; identifying a first taxonomic identifier of the name

entry; determining if the first taxonomic identifier is included in a classification entry in a

classification table allowing taxa to be organized according to more than one classification;

identifying a second taxonomic identifier of the classification entry; and based on the second

taxonomic identifier, identifying a second name. In contrast, neither Cotter nor Pullan relate to

information retrieval systems, but instead, relate to biological information systems that do not

allow such retrieval. Further, Cotter's and Pullan's systems are government-based systems that

are not accessible to general public. Applicants stated that Cotter's system relates to a controlled

vocabulary that does not facilitate information retrieval. Applicants pointed out that Cotter's

system is currently being developed and is not operational (Cotter, page 435), hence, the

disclosure of Cotter cannot be used to reject the claims in the present application nor can it be

modified based on the disclosure in the present application. Pullan's system is capable of ranking

information. In the Final Office Action, the Examiner pointed to Berendsohn (1995) reference

(Final Office Action, page 13) and stated that Pullan discloses a concept of "potential taxon" that

relates to classification. Applicants pointed out that "potential taxon" does not relate to

classification, as recited in claim 32. Pullan distinguishes Berendsohn (1995) reference as

disclosing concepts that do not work.

During the Interview, the Examiner maintained her rejections of the pending claims. The

Examiner suggested that the claims should be amended to clarify that the systems in the present

invention are directed to information retrieval. The Examiner further stated that she will consult

with fellow Examiners regarding Applicants' comments that Pullan distinguishes Berendsohn

(1995) reference as an unworkable, as pointed out by the Applicants, and may withdraw the

finality of the September 29, 2006 Final Office Action based on such consultations.

The Examiner and Applicants did not reach an agreement. The following is a substantive

response to the Final Office Action.

35 U.S.C. 101

In the Final Office Action, the Examiner rejected claims 38, 41 and 67-71 under 35

U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicants

amended claims 38, 41, 67, and 71 to accommodate Examiner's rejections. Thus, the rejections

of claims 38, 41, and 67-71 are now moot. The Examiner is requested to reconsider and

withdraw her rejections of claims 38, 41 and 67-71.

35 U.S.C. 103(a)

In the Final Office Action, the Examiner rejected claims 32, 33, and 38-71 under 35

U.S.C. 103(a) as being unpatentable over Cotter in view of Pullan. Applicants respectfully

traverse this rejection.

Amended claim 32 recites, *inter alia*, a computerized method for managing taxonomic

information to facilitate retrieval of information, including identifying a first name that specifies

an organism, determining if the first name corresponds to a name entry in a names table,

identifying a first taxonomic identifier of the name entry, determining if the first taxonomic

identifier is included in a classification entry in a classification table allowing taxa to be

organized according to more than one classification, identifying a second taxonomic identifier of

the classification entry, and based on the second taxonomic identifier, identifying a second name.

In the Final Office Action, the Examiner stated that Cotter discloses all elements of claim

32 except that it does not "disclose allowing taxa to be organized according to more than one

classification." (See, Final Office Action, Page 4-5). Instead, according to the Examiner, "Pullan

teaches allowing taxa to be organized according to more than one classification (Pullan, page 10-

11)". The Applicants respectfully submit that neither Cotter nor Pullan nor their combination

disclose all elements of claim 32 and that their improper combination does not teach or suggest

the present invention, contrary to the Examiner's assertion. Specifically, Cotter, Pullan and their combination fail to disclose, teach or suggest, *inter alia*, "identifying a taxonomic identifier of the name entry; determining if the taxonomic identifier is included in a classification entry in a classification table allowing taxa to be organized according to more than one classification; identifying another taxonomic identifier of the classification entry", as recited in claim 32. Additionally, Cotter and Pullan are government-based systems that are not accessible to the public at large and are designed to provide biological information. This is in contrast to the present invention that is designed to be accessible to the public and facilitates information retrieval.

Cotter discloses an Integrated Taxonomic Information System ("ITIS") that provides a standardized reference for the scientific names of the flora and fauna of North America and surrounding oceans. (Cotter, page 432, col. 2). ITIS provides a common vocabulary of species names and links to biological data. Cotter simultaneously searches for a name and synonyms of the name. (Cotter, page 432, col. 2). Cotter's ITIS depends upon a system of data stewards, i.e., people with particular taxonomic expertise, who are responsible for scientific quality of data. (Cotter, page 433, col. 1). Upon completion of a search, Cotter's ITIS produces one preferred scientific name and multiple synonyms of the scientific name. Cotter implements a controlled vocabulary to use in describing resources in metadata records. (Cotter, page 434, col. 2). A researcher, using Cotter, creates metadata records by entering a known term and then Cotter checks the term against the controlled vocabulary. (Cotter, page 435, col. 1).

However, Cotter fails to disclose, teach or suggest, *inter alia*, identifying a taxonomic identifier of the name entry, as recited in claim 32. Instead, Cotter only describes a controlled vocabulary that contains a plurality of terms and synonyms of those terms, where the synonyms

are produced as a result of a search. (Cotter, pages 434-435). Cotter allows its users to create a

metadata record based on their search. This is in contrast to the present invention that identifies a

taxonomic identifier of the name entry, as recited in claim 32. Further, Cotter does not disclose,

inter alia, determining if the taxonomic identifier is included in a classification entry in a

classification table, contrary to the Examiner's assertion. (Final Office Action, page 4). In

contrast, Cotter's controlled vocabulary generates synonyms and other authorized terms based on

an entered search term. The searcher, using Cotter controlled vocabulary, browses the

vocabulary to select the most specific authorized terms for retrieval of datasets and documents or

combines the terms to construct a wider-ranging free-text search. (Cotter, page 435, col. 1-2).

However, Cotter does not describe a classification table having classification entries containing

taxonomic identifiers, as recited in claim 32.

Cotter also does not disclose, teach or suggest, *inter alia*, identifying another taxonomic

identifier of the classification entry, as recited in claim 32. Cotter discloses a controlled

vocabulary containing scientific terms and synonyms of the terms, but does not disclose use or

identification of taxonomic identifiers. Thus, Cotter does not disclose, teach or suggest all

elements of claim 32.

Further, Cotter states "The NBII Vocabulary was recently completed and is now being

integrated with cataloguing and search tools. The research effort required to link distributed

vocabularies is still under development." (Cotter, page 435, col. 2). Thus, Cotter's system has not

been completed nor has it worked. As such, Examiner's statement relating to "classification

means" allegedly disclosed in Cotter (Final Office Action, pages 12-13) is improper. According

to MPEP 2143:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis supplied).

Thus, the Examiner cannot modify Cotter based on the disclosure of the present application to infer present invention's classification table among other elements, recited in claim 32. As such, the Examiner is requested to withdraw her rejection of claim 32.

In the Final Office Action, the Examiner stated that Pullan "teaches allowing taxa to be organized according to more than one classification". (Final Office Action, page 4). Pullan discloses a circumscribed taxon ("CT") element that contains a representation of taxonomic opinion, i.e., circumscription of the taxon. The CT element includes a rank of the taxon (i.e., whether certain types of links can be made to or from a CT element and which rules should be applied when determining the correct name), circumscription details (i.e., a CT delimiter), ascribed name, author and date. (Pullan, Figure 3, Pages 9-10). Pullan's classification is represented by the relationships between CTs, i.e., the fact that a taxon is a member of another taxon of higher rank is indicated by a link between the appropriate CTs. Pullan's classifications are represented by a separate hierarchy of CTs. (Pullan, page 10).

This is in contrast to the present invention, as represented by claim 32. Contrary to the Examiner's suggestion, Pullan does not disclose, teach or suggest, *inter alia*, determining if the taxonomic identifier is included in a classification entry in a classification table allowing taxa to be organized according to more than on classification, as recited in claim 32. Instead, Pullan

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organizes taxons according to a hierarchy based on a rank and, then, links them together. This is in contrast to claim 32 which recites organizing taxa according to more than one classification in a classification table.

Further, Pullan does not disclose, teach or suggest a taxonomic identifier, as recited in claim 32. Pullan discloses a CT element, which represents a set of individual elements, annotated with names, that define a taxon. (Pullan, Page 10). The CT element is different from the taxonomic identifier. In contrast, the taxonomic identifier identifies an entry in a names table, where the name specifies an organism, and then, based on the taxonomic identifier, a second name can be identified, where the second name also identifies an organism, according to claim 32.

Additionally, Pullan discloses that classifications are represented by relationships between CT elements and that these relationships are based on rank assignments of the CT elements. (Pullan, Pages 10-11). Further, Pullan's classifications are based on genus-species CT element groups (i.e., a genus rank CT element may have multiple species rank CT elements that are subordinate to it). (Pullan, Page 10). In contrast, the present invention organizes taxa according to more than one classification, according to claim 32. This is different than organizing CT elements based on rank.

In the Final Office Action, the Examiner referred to an article by Berendsohn (1995) and stated that it teaches a concept of "potential taxon" to represent multiple classifications in a database. (Final Office Action, page 13). Applicants respectfully disagree with this statement. Pullan distinguishes Berendsohn (1995) reference and further states that the reference does not separate processes of naming and classification and that the concept of "potential taxa" is not workable. (Pullan, page 5). As such, the Examiner is improperly using Applicants' disclosure to

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modify Pullan to infer that the elements recited in claim 32 are disclosed in Pullan. See, MPEP 2143.

Further, as stated above, Cotter and Pullan are biological information systems that do not facilitate information retrieval, contrary to the recitation of claim 32. Hence, Cotter and Pullan cannot be compared to the method of claim 32.

Thus, neither Cotter nor Pullan disclose, teach or suggest all elements of claim 32, and claim 32 should be allowed.

Further, there is no motivation or suggestion to combine Cotter and Pullan to produce the claimed invention. Specifically, Cotter discloses a biological information system having a controlled vocabulary that includes scientific names of species and links to biological data. The vocabulary can be searched to produce multiple synonyms of scientific names. Pullan discloses a genus-species ranking system that classifies relationships between specific CT elements. In contrast, Cotter does not disclose any way to rank scientific names in its vocabulary. Pullan does not disclose a controlled vocabulary that contains synonyms of names. Hence, Cotter and Pullan relate to different technological arts and cannot be properly combined.

Even if one were to combine the Cotter and Pullan, the present invention, as represented by claim 32, is not realized. Specifically, the combination of Cotter and Pullan results in a system that includes a controlled vocabulary of scientific terms and synonyms of the scientific terms, which can be organized in a hierarchy based on a rank. However, the combination of Cotter and Pullan fails to disclose, teach or suggest, *inter alia*, a method for managing taxonomic information to facilitate retrieval of information, including identifying a taxonomic identifier of the name entry; determining if the taxonomic identifier is included in a classification entry in a

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classification table allowing taxa to be organized according to more than one classification; identifying another taxonomic identifier of the classification entry, as recited in claim 32.

Thus, the combination of Cotter and Pullan does not render claim 32 obvious. As such, this rejection is respectfully traversed. The Examiner is requested to reconsider and withdraw his rejection of claim 32.

Independent claims 38, 39, 40, 41, 60, 61, 67, and 71 are patentable over the combination of Cotter and Pullan for at least the reasons stated above with respect to claim 32. Thus, the rejections of claims 38, 39, 40, 41, 60, 61, 67, and 71 are respectfully traversed. The Examiner is requested to reconsider and withdraw his rejections of claims 38, 39, 40, 41, 60, 61, 67, and 71.

Claims 33, 42-59, 62-66, and 68-70 are dependent on respective independent claims 32, 38, 39, 40, 41, 60, 61, 67, and 71. As such, claims 33, 42-59, 62-66, and 68-70 are patentable over the combination of Cotter and Pullan for at least the reasons stated above with respect to claim 32. Thus, the rejections of claims 33, 42-59, 62-66, and 68-70 are respectfully traversed. The Examiner is requested to reconsider and withdraw his rejections of claims 33, 42-59, 62-66, and 68-70.

CONCLUSION

No new matter has been added.

The claims currently presented are proper and definite. Allowance is accordingly in order and respectfully requested. However, should the Examiner deem that further clarification of the record is in order, we invite a telephone call to the Applicants' undersigned attorney to expedite further processing of the application to allowance.

Applicants believe that no additional fees are due with the filing of this Amendment. However, if any additional fees are required or if any funds are due, the USPTO is authorized to charge or credit Deposit Account Number: **50-0311**, Customer Number: **35437**, Reference Number: **24443-501-UTIL**.

Dated: December 29, 2006   Respectfully submitted,
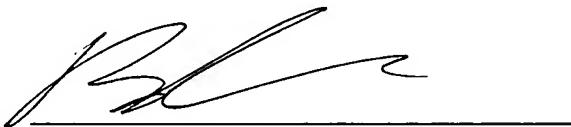
Boris A. Matvenko
Reg. No. 48,165
Attorney for the Applicants
MINTZ LEVIN COHN FERRIS
GLOVSKY & POPEO, P.C.
Chrysler Center
666 Third Avenue, 24th Floor
New York, NY 10017
Tel: (212) 935-3000
Fax: (212) 983-3115

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